KENTUCKY FEEDING STUFFS LAW PREVENTION OF ADULTERATION

Great Protection To the Farmer and Consumer—Enormous Sum of $3,500,000 Required Annually For Commercial Feeds—How To Buy and Use Feeds

(J. D. Turner, Feed Control Division, Kentucky Experiment Station.)

The quality of feeding stuffs has been under governmental control in the European countries for a good many years, but not until recently, or comparatively so, has it been necessary for this country to enact laws regulating the manufacture and sale of these commodities. Practically every state in the union has a commercial feeding stuffs law, varying considerably in their requirements, due largely to conditions peculiar to each state.

The Law of Kentucky.

The feeding stuffs law of Kentucky was passed in 1906 and carries in its provisions the following objects:

First. To have all feeding stuffs sold or offered for sale within the state registered under a guaranty and truly labeled so the consumer may know the character of the feed he is buying.

Second. To protect the consumer against inferior and adulterated feeding stuff by requiring them to be properly registered and labeled.

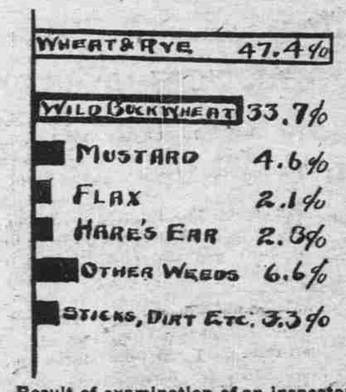
Third. To protect the honest manufacturer against dishonest competition by preventing the fraudulent use of adulterants, misbranding and inferior grains and their by-products.

Fourth. To promote a more economical and intelligent use of feeding stuffs.

The Kentucky Trade.

The trade of commercial feeding in Kentucky involves an enormous sum of money each year—estimated at three and one-half million dollars. Before the operation of the feeding stuffs law, these commercial feeds were being sold bearing misleading names their real feeding value.

Since the law went into effect, the sale of adulterated feeds has been reduced to a minimum. It has driven from the market those feeds largely made up of adulterants and inferior materials, and saves the consumer of the state thousands of dollars annually.



Result of examination of an inspector's sample of screenings.

Aside from this, it is beyond one's power to estimate in dollars and cents the saving to the state from the death of stock from the use of commercial feeds containing poisonous materials. It is equally impossible to place a value on the saving to the farmers in preventing the introduction and spreading of noxious weeds through the medium of stock feed.

Again from a humanitarian standpoint, it is of inestimable value. Dairy cows, as well as work and meat animals, fed on feeding stuffs made up largely of inferior, adulterated and poisonous materials often become unhealthy and diseased. Likewise, the milk and meat these animals produce are inferior and unwholesome. The result of feeding such milk to babies is foretold.

Sources of Materials.

The greatest sources of materials used in commercial feeding stuffs are the by-products of grain elevators, flouring mills, sugar, glucose and oil factories, breweries, distilleries, slaughter houses, etc. These materials are usually of high grade and form the bulk of legitimate trade in feeding stuffs. The next source is the light and immature grains of wheat, barley, oats and other grains and cereals, certain weed seeds, oat by-products, such as oat middlings, oat hulls, etc., which range from very low to fair in feeding value, and should not be wasted. Finally, there is another source of materials which is exploited on the trade usually under false cover, such as the trash of elevators and mills, corn cobs, peanut hulls, certain weed seeds, cocoa waste and similar materials from worthless to dangerous.

Adulterations.

The prevailing high prices of feeding stuffs are a great temptation to unscrupulous manufacturers and dealers to use adulterants or materials of inferior quality. The most common adulterants used in straight feeds are corn bran, screenings, sweepings, peanut hulls, cob meal and similar materials; in cotton seed meal, cotton seed hulls; in oil meal, cotton seed meal and weed seeds; in brewer's and distiller's dried grains, cob meal, corn bran and screenings; in mixed and compounded feeds, oat hulls, peanut hulls, cob meal, cocoa waste trash of elevators and mills, screenings and weed seeds.

Most of the screenings coming into the state in compounded feeds are ground or exposed to high temperature, thus rendering germination impossible. However, a large number of poultry feeds contain weed seeds in a perfectly viable condition. The fact that foul seeds are abundant in these waste products is a serious question. These weed seeds are eaten with the feed, but a number of them will escape being ground up and digested and will pass off in the manure, in which they may find their way to the fields, there to germinate and do great damage by stocking the farm with weeds.

An examination of a sample of screenings revealed the following:

Wheat and rye	47.4%
Wild buckwheat	33.7%
Flax	2.1%
Hare's ear	2.3%
Mustard sp.	4.6%
The following weed seeds altogether amount to	6.6%
Seeds per pound of screenings.	
White prickly poppy	1315
Corn cockle	363
Lamb's quarters	1134
Pigeon grass	1633
Foxtail	4172
Oats	680
Oat-grass	272
Stickseed	453
Canada thistle	45
Cress	90
Lady's thumb	181
Compositate sp.	90
Miscellanecus	453
Sticks and parts of dirt	3.3%
	100%

The objectionable weed seeds in this sample are wild buckwheat, corn cockle, pigeon grass, foxtail and Canada thistle. Others are also objectionable, though they are widely scattered everywhere on land and are not difficult to suppress on cultivated ground ordinarily. A bag of 100 pounds of feed containing 25 per cent or 25 pounds of screenings as presented in this analysis is estimated to have in it 8¼ pounds of wild buckwheat seed, 9,075 corn cockle seed, 40,800 pigeon grass seed, 104,300 foxtail seed and 1,125 Canada thistle seed, which, if permitted to germinate will stock the farm wherever such feeds are fed.

In making guarantee to the state, manufacturers and dealers are required to state the percentage of screenings used and whether they are ground or unground.

Use of Commercial Feeding Stuffs.

Commercial feeding stuffs are usually purchased for the purpose of supplementing the feeding materials raised on the farm and especially is this true where corn and timothy hay are the only crops. One of the most important questions, then, that concerns the consumer is how to buy feeding stuffs. Users of purchased feeds in large quantities are generally experienced and buy only high class materials at close prices. It frequently happens that the small consumer, too often feeling the pinch of poverty, seeks a cheap grade of feed that sells for less than high class materials, and is easily caught by the low grade trashy feeds bearing catchy names.

Cheap feeds, no matter what names they bear, are quite likely to result in hardship to the animals that are fed on them, and to the owners of such animals as well.

How To Buy Feeds.

It is very rarely that feeds are offered for sale in the state that are not regularly registered and labeled in accordance with the requirements of the law and in most instances the feeds run well up to guaranty. The consumer, therefore, has at his inspection of the label sufficient information to enable him to buy on a basis of economy. If cow peas, alfalfa, soy beans and other similar crops can be raised and used on a farm, little, if any concentrates are needed, as these materials are rich in protein and will supply sufficient nourishment. Farm products such as corn, oats, corn fodder, sheaf oats, timothy hay, and other hays grown so generally on Kentucky farms, contain relatively high percentages of carbohydrates and low percentages of crude fat and protein, and should not be considered in the purchase of concentrated materials. The amount, therefore, of digestible protein and fat should govern in the purchase of commercial feeding stuffs.

One fact of great importance which must not be lost sight of in economical feeding is that the amount, kind and character of the feed an animal requires depends entirely upon the use to which that animals is going to put the food. A team may be kept through an idle time on feed that would not be at all suited to the needs of the same team at hard work, or a cow yielding a large flow of milk during an official test. There is little use in paying high prices and establishing a good dairy herd unless careful attention is given to the amount and character of the feed, for however well bred and efficient the individuals, they can not give in their product what they do not receive in their food. This is just as true of work and growing animals.

INTERNATIONAL SUNDAY SCHOOL LESSON

(By E. O. SELLERS, Director of Evening Department, The Moody Bible Institute, Chicago.)

LESSON FOR DECEMBER 14

THE SIN OF ACHAN.

LESSON TEXT—Joshua 7:6-15. Read Joshua chapters 7-11.

GOLDEN TEXT—"Be sure your sin will find you out."—Num. 32-23.

Before proceeding against Jericho, God, through his servant Joshua, had given strict injunctions as regards the taking of anything from the city for self-enrichment, ch. 6:17, 18. It was necessary at the outset of this campaign to safeguard Israel against any such motives. The fruits of their victories must in no way seem to be the rewards of, nor to be dependent upon, the efforts of their own hands. Spiritual victories are, as we learned last week, won by means and upon principles utterly foolish and inadequate in the view of human wisdom. Nor is the Christian dependent upon the principles of human thrift for his sustenance or enrichment. That does not mean the divorcement of the Christian from those principles.

The story of Achan is an illustration. While his sin was individualistic yet it was national in its results (v. 1.) After the fall of Jericho, Joshua sent a detachment of 2,000 or 3,000 men to take possession of the small town of Ai (literally, "ruins"). The task was seemingly an unimportant and an easy one, but the result was that the expedition was turned into a miserable rout (vv. 1-6).

Achan's Sins Revealed.

The stages of the sin of Achan are wonderfully revealed in the confession (v. 21) which was finally wrung from —"I saw . . . I coveted . . . I took . . . they are hid."

I. Joshua's error, vv. 6-9. It was right and proper for Joshua to bring his difficulty to God, but it was not right for him to lay upon him the blame for his defeat. Moses before him had made that same mistake (Ex. 5:22, 23), and it would seem that Joshua should have profited thereby. In this, however, he is supremely human. We of today with far greater light are constantly making this same mistake of accusing God, instead of finding out and judging our sin. There is, however, an underlying note of the master passion of Joshua's heart, that note which had so governed the heart of his predecessor, Moses. It is expressed in the last note of his complaint, "What wilt thou do for thy great name?" v. 9. This complaint and petition sounds very much like those of the preceding generation uttered in the wilderness. For us to wish ourselves to be "content to dwell beyond Jordon," when the testing times of our Christian life come, when the calls come for an advance, is to doubt his wisdom. No wonder Joshua was amazed when he saw Israel turn its back upon its enemies (v. 8). We must beware lest we, too, be dismayed when we see the church of today give way before the world and the devil.

II. The cause of defeat, vv. 10-12. Joshua's petition is answered by the voice of Jehovah in terms of rebuke, strong, yet tender. In verse two we are told that Joshua sent men to view Ai. Why? Because in the language of verse one "the children of Israel committed a trespass in the accursed thing." Joshua wanted the people to know that the sin of Achan and its results was the sin of the whole nation. God brings the essential oneness of the nation before us in verse eleven; for an illustration, see I. Cor. 5:1-7 and 12:12-14, 16.

God's Instructions.

III. The victory of defeat, vv 13-15. It is a testimony as to the spiritual condition of this nation that the fraud was so soon located. The early Christian church had a parallel incident in the case of Ananias and Sapphira, Acts 5:1-11. In each case the evil was quickly judged and reveals the closeness of God to his people. In the process of years Israel passed from that condition; has the church of today so passed? God had given explicit instructions as to the spoil (ch. 6:18 R. V.). God commands Joshua not to cry unto him, but to "sanctify the people." The church of Christ, as well as the individual, needs to judge its sin and to set itself apart unto God.

It was a stern judgment and the query arises what sort of bonfire would the church have today were all sinfully acquired property to suffer similar destruction. It is noticeable, however, that there is no suggestion of any confession on the part of Achan until the narrowing circle of judgement had closed upon him. He confessed only when there was no possible escape. This seems like a stern, hard process, but yet God was dealing in mercy with the whole people.

IV. The Golden Text. The words of this text were uttered by Moses to the two and a half tribes who settled on the east of Jordan, that in case they refused to come to the help of their brethren in the conflict necessary to the possession of Canaan, their sin would discover them. This lesson warrants the application of this principle. A sin against God results in injury to your neighbor. It is a sin not to help your neighbor and conversely to indulge in any act which results in the defeat, moral or otherwise, of those with whom we associate, is also a sin.

DIVERSIFICATION ON SOUTHERN FARMS

Corn Crop Peculiarly Adapted to Soils in the South.

IMPORTANT CROP IN SOUTH

No Such Risks From Frosts as Menace Farmers of So-Called Corn Belt—Only Necessary to Pulverize Soil to Absorb Moisture.

(By G. H. ALFORD.)

The long seasons of the south make it peculiarly adapted to the cultivation of the corn crop, since there is never any risks from early frosts catching corn as there is in a large part of what is now termed the corn belt. The rainfall is sufficient to produce maximum crops and it is only necessary to pulverize the soil and fill it full of vegetable matter and plant food for from 5 to 15 inches deep so that it will absorb the rain and conserve the soil water by frequent and shallow cultivation.

Fertile soil and good seed are essential to success in corn growing, but without thorough preparation of the soil before the seed is planted we have no right to expect a good crop of corn. If we will only give our lands the preparation that the farmers in the central west give their lands we can, by reason of climatic conditions and natural fitness for the crop, easily beat them in production, and the doing of this is not a question of mere application of so much fertilizer per acre.

The results of the experiment stations seem to indicate that at the usual price of corn and commercial fertilizers, the profitable production of corn upon commercial fertilizers is almost a hopeless undertaking, unless the corn crop is grown in a systematic rotation with nitrogen-gathering crops. The Georgia station says: "That at present prices of commercial fertilizers they cannot be used with profit." The Ohio station states: "In no case has the increase in the crop been sufficient to pay cost of fertilizers." The Virginia station says: "In no instance did the nitrogen application give a gain equal to its cost."

An application of a medium amount of the fertilizer on average land will usually pay a profit. Barnyard manure is a valuable fertilizer. It increases the amount of available fertility in the soil, adds humus to the soil and improves the mechanical conditions.

The average yield of corn in the south is about 15 bushels. It is an easy crop to improve in yield and in quality. The yield to an acre can easily be doubled with very little increase in labor or expense by planting better and more prolific seed in addition to increasing the fertility of the soil and by better methods of preparation and cultivation.

The variety should be adapted to the conditions of the soil and climate in which it is grown. There is no crop grown that is so much influenced by being transferred from north to south of the section where the corn is to be grown. Therefore, we should avoid sending north or south of our latitude for seed, but should take at the start the best corn attainable that has been long grown in our latitude and through careful selection, year after year, bred up.

The average corn grower plows, plants and cultivates one-fourth to one-third of his corn acreage without receiving anything for his labor. This is because of the vacant hills and barren stalks attributable to poorly selected seed.

CORN GROWERS' RULES.

1—Save Seed Before Oct. 1st.
2—Test Each Ear.
3—Grade the Seed and Test the Planter.
4—Improve the Seed.
5—Do Not Import Seed.
6—Do Not Continue Without a Rotation of Crops.
7—Do Not Follow Oats With Corn.

The method of planting must be adapted to the section and nature of the land. Where the soil is high and dry soil, or where very dry weather is likely to prevail during the growing season, planting corn in the water furrow is probably best. The soil can be gradually worked to the corn. Where the land is well drained, it is generally best to plant the corn on a level so that flat, shallow cultivation may be practiced to the best advantage. On wet lands, it is usually best to plant on beds and give the corn ridge cultivation.

The result of the experiment stations seem to indicate that it makes no particular difference in yield whether the corn is planted in hills or in drills.

The distance apart in rows and drills must be settled for each locality and each particular soil. The amount of moisture and fertility of the soil must be considered in deciding the distance in the drill. Where the soil is light and dry, weather usually dry during the growing season, best results are generally obtained by having the rows four or five feet apart, with one stalk every three feet apart in the row. Where such thin planting is necessary, it is generally preferable to plant soy beans, peanuts, or some other crop between the corn rows.

The cultivation of the corn crop should always be level and shallow, except in low, undrained lands, where it may be necessary to plant in ridges and to keep the middle clear to assist in drainage. The first cultivation should be made before the corn comes out of the ground, and the best implement to use is the harrow to merely break the crust and allow the corn to come up easily and uniformly. Then follow with a harrow or weeder, going both ways, and after the corn gets six or eight inches tall, the two-horse cultivator, which enables the operator to cultivate both sides of a row at once, is the best implement to use.

It is always much easier and more satisfactory to prevent the growth of weeds or destroy them soon after the seeds germinate than it is to attempt their destruction after they have attained a firm, fast hold. The sectional steel harrow, or the weeder, on light lands full of humus and so on are the implements to use in cultivation.

The later cultivation after the corn gets tall is the small-tooth, one-horse cultivator. Worked in this way the roots are unharmed and the moisture is kept right where they seek it.

Many carefully made experiments have shown that the stalks, leaves and shucks of corn have a feeding value equal to the grain. Of course, if we let the stalks stand in the field until the grain is fully matured the stover will be of very little value. But if the corn is cut while the fodder is still green and untouched by frost, that is, as soon as the ears are well glazed, and is cured in the shocks, the fodder is of far more value for feeding.

GOOD PLACES TO HANG SEED.

1—Dry Ventilated Cellar.
2—Dry Attic or Spare Room.
3—Dry Ventilated Shed.
4—Any Dry Ventilated Building.

BAD PLACES TO HANG SEED.

1—Stable Over or Near Stock.
2—Over Oats or Corn.
3—Damp Cellar.
4—Closed Attic Over Kitchen.
5—Any Damp Close Place.
6—Out in Sunshine.

The most important and valuable invention in the connection with the corn crop in recent years has been the invention of the silo, into which the green corn is cut, preserved in a succulent state for winter feeding and for tiding over a drought in the summer when the grasses fail in the pastures. The silo is indispensable to the breeder of either beef or dairy cattle.

More corn brings into use the pastures and idle lands of the farms. It is a basis for the cheaper food supply for the masses. Therefore, the production of an abundant supply of corn is one of the essentials of good farming. The south will be prosperous when the necessary corn is grown within her borders.

Where it is common only to gather the grain and then turn the cattle into the field to glean the fodder, that, standing in the frost had become practically worthless, the cattle ranging over the soft and wet ground, puddle the soil and do serious injury to it in the future cultivation. Then, too, the land is left bare all winter and loses fertility in winter rains, when it should have the green cover crops on it at all times.

Modern machinery has greatly lessened the labor of cutting and shocking the corn. We now have machines to cut and bind the corn, and we have the huskers and shredders that separate the corn from the stover and tear up the whole stalks and leaves into such a shape that not only is a far larger portion eaten, but the waste part is in such a shape that it makes valuable bedding.

SAND FOR THE SICK CHICKS

Kansas Farmer Saves Many of His Little Fellows by Use of Gravel —Remedy for Lice.

(By J. D. HUNTER.)

I see so often in the paper of people being troubled with white diarrhoea in their chicks. Three years ago we lost most all of our young chicks with this disease and I concluded it was the want of sand, so this year we have sieved sand for them when they are one day old and put a little bran on millet and wheat and corn chop, all mixed, equal parts, on the sand—just a little so they will get more sand than the mixture, and this year I have 150 and have scarcely lost a chick. I had 56 little ones and did not lose one until I ran out of sand, when one died and the others looked bad, so we got the sand right away and they picked up immediately. For mite lice we use a pint of grease and one quart of coal oil and a pint of crude carbolic acid and take a swab or turkey wing and fill all the crevices in the chicken houses with the mixture and we have not seen any of the lice since two years ago, barring one or two times in the summer when I went right at the roosts with the mixture and they quickly disappeared.

Locate Borers.

The drops of gum which exude from the roots of the peach trees show where the borers are.

FARM POULTRY

WHY POULTRY IS VALUABLE

Canadian Expert Gives Eight Reasons In Reply to This Pertinent Question—Good Anywhere.

Why is poultry valuable to the farmer? is a question asked by hundreds of tillers of the soil who usually keep but a few chickens, and these a mixture of all breeds. Professor Gilbert of Ottawa, Canada, gives the following reasons in answer to this pertinent question:

1. Because he ought, by their means to convert a great deal of the waste of his farm into money in the shape of eggs and chickens for market.

2. Because, with intelligent management they ought to be all-year revenue producers, with the exception of possibly two months during the moulting season.

3. Because the poultry will yield him a quicker return for the capital invested than any of the other departments of agriculture.

4. Because the manure of the poultry house will make a valuable com-

A Mixed Flock.

posite for use in either vegetable garden or orchard. The birds themselves, if allowed, will destroy all injurious insect life.

5. Because, while cereals and fruits can only be successfully grown in certain sections, poultry can be raised for table use or layers of eggs in any and every part of the country and at all seasons.

6. Because poultry raising is an employment in which the farmer's wife can engage and leave him free to attend to other departments of farm work.

7. Because it will bring the best results in the shape of new-laid eggs during the winter season, when the farmer has the most time on his hands.

8. Because to start poultry on the farm requires very little capital.

DON'TS FOR THE POULTRYMEN

Idaho Instructor in Poultry Industry Gives Several Excellent Hints for Poultry Success.

(By LILLIAN BLANCHARD, Instructor in Poultry Industry, Pullman, Wash.)

Don't allow vermin among little chicks.

Don't allow chicks to become chilled.

Don't feed unbalanced rations.

Don't overcrowd the chicks.

Don't neglect to feed an abundance of green stuff.

Don't neglect to cull continually.

Don't feed spoiled grain.

Don't hatch chicks late if you expect fall and winter layers.

Don't hatch more chicks than you can care for.

Don't set dirty or old eggs.

Don't allow sitting hens on the layers' nests.

Don't allow the male birds to run with the hens after the hatching season is over.

Don't allow too many females with the male bird during the mating season.

Don't expect results without work.

Molting Is Natural.

The molting of fowls is a natural process and not a disease, and no medical treatment is necessary or desirable. Feed molting fowls just as you would feed them at any other time, only remembering that molting is done during hot weather and less carbonaceous food should be given than when the weather is cool. Oats, wheat, cut clover or alfalfa or any leguminous feeds may be used more because the weather is warm than that fowls are molting. Any sort of green food is good; so are beets, turnips, bulbs or tubers of any sort that they will eat. They should have little corn or other heat-producing food.

Sign of Distress.

When chickens have droopy wings it is a sign that they have vermin and need attention.

Winter Ventilation.

Try a cloth-covered ventilating space in the south side of your poultry house this winter.